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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/547,660	09/01/2005	Per Hofvander	12810-00125-US	1628
23416	7590	07/25/2008	EXAMINER	
CONNOLLY BOVE LODGE & HUTZ, LLP			PAGE, BRENT T	
P O BOX 2207			ART UNIT	PAPER NUMBER
WILMINGTON, DE 19899			1638	
MAIL DATE		DELIVERY MODE		
07/25/2008		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/547,660	<b>Applicant(s)</b> HOFVANDER ET AL.
	<b>Examiner</b> BRENT PAGE	<b>Art Unit</b> 1638

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
  - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
  - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED. (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 17 May 2007.
- 2a) This action is FINAL.      2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) 8,12,14 and 15 is/are withdrawn from consideration.
- 5) Claim(s) 13 is/are allowed.
- 6) Claim(s) 1-6,9-11,16-19,23-30 is/are rejected.
- 7) Claim(s) 7 and 20-22 is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- 1) Notice of References Cited (PTO-892)  
 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)  
 3) Information Disclosure Statement(s) (PTO/SB/08)  
 Paper No(s)/Mail Date 6/2007
- 4) Interview Summary (PTO-413)  
 Paper No(s)/Mail Date \_\_\_\_\_  
 5) Notice of Informal Patent Application  
 6) Other: \_\_\_\_\_

**DETAILED ACTION**

The Reply filed by Applicant on 5/17/2007 is hereby acknowledged.

Claims 1-30 are pending. Claims 8, 12, and 14-15 are withdrawn claims. Claims 1-7, 9-11, 13 and 16-30 are examined herein on the merits. All rejections and objections not specifically addressed below are considered hereby withdrawn in view of Applicants arguments when taken together with the claim amendments.

***Claim Objections***

Claims 7, and 20-22 are objected to because of the following informalities: The claims depend from rejected claims but would otherwise be allowable if rewritten in independent form.

***Claim Rejections - 35 USC § 112***

Claims 1-6, 9-11, 16-19, 23-27 remain rejected and claims 28-30 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for nucleic acids encoding SEQ ID NO:4, does not reasonably provide enablement for sequences encoding as little as 80% of the amino acid sequence of SEQ ID NO:4. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the invention commensurate in scope with these claims. The claims are rejected for the reasons of record in the office action mailed out 12/11/2006 as well as the reasons set forth below.

Applicant's arguments filed 05/17/2007 have been fully considered but they are not persuasive.

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Applicants urge that the claim amendments reciting a nucleic acid that encodes an amino acid with at least 80% identity with SEQ ID NO:4 is commensurate in scope with the claims and that the specification provides guidance for modifying the sequence while maintaining the properties of a starch biosynthesis enhancing protein (pages 6-7 of the response).

This is not persuasive because the specification only generally discloses that conservative substitutions of amino acids are less likely to alter the function of the protein. However, there is no guidance that actually shows protein function in embodiments that have only 80% identity to SEQ ID NO:4. The amino acid sequence is 648 amino acids long, so an amino acid with as little as 80% identity may have anywhere from 1 to 129 amino acids substituted, inserted or deleted in any combination over the entire length of the sequence. The specification gives no particular guidance to which of the vast number of embodiments is likely to retain the claimed function.

Claims 1-6, 9-11, 16-19, 23-27 remain rejected and claims 28-30 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claims contain subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The claims are rejected for the reasons of record in the office action mailed out 12/11/2006 as well as the reasons set forth below.

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Applicant's arguments filed 05/17/2007 have been fully considered but they are not persuasive.

Applicants urge that the claim amendments obviate the rejection of record. This is not persuasive because the claim amendments still recite multitudes of sequences particularly with multiple substitutions in the amino acid sequence that are not described in the specification. Furthermore that required structures for the function of a starch synthesis protein are also not adequately described so as to place Applicants in possession of the full scope of the claims.

***Claim Rejections - 35 USC § 102***

The rejection of claims 1-4, 6, 9-11, 16-19 and 22-27 under 35 USC 102(b) as being anticipated by Barry et al is hereby withdrawn in view of the claim amendments.

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to BRENT PAGE whose telephone number is (571)272-5914. The examiner can normally be reached on Monday-Friday 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Anne Marie Grunberg can be reached on (571)-272-0975. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Phuong T. Bui/  
Primary Examiner, Art Unit 1638

Brent T Page

